

## REMARKS/ARGUMENTS

Figures 2 and 3 submitted on January 10, 2006 were objected because the hand drawn features were allegedly illegible. As such, newly amended Figures 2 and 3 in compliance with 37 CFR 1.121(d) and 37 CFR 1.83(p) are submitted and withdrawal of the objection is earnestly requested.

### Claim rejections 35 USC § 102

Claims 1-2, 5-11, 13-16 and 18-20 were rejected under 35 USC 102(b) as being allegedly anticipated by Coker U.S. Pat. No. 5,371,878 (hereinafter, Coker). The Applicant respectfully traverses the rejection.

Independent Claim 1 recites a limitation whereby an ICE (in circuit emulator) includes a second CPU and wherein the microcontroller and the ICE run the microcontroller code in lock step by executing the same instructions using the same clocking signals, as claimed. Moreover, independent Claim 1 recites a limitation whereby the computer system is configured to compare a content of the first memory against a content of the second memory to verify the lock step, as claimed.

Coker discloses that operating on input data with the same value, memory location and relative timing as the target-ECS, the shadow system has an execution state at any given time corresponding to a known execution state in

the target-ECS and can produce a mirror-image or shadow of the target-ECS (see Coker, col. 3, lines 6-12). The Applicant does not understand Coker to teach or suggest that the lock step operation is by executing the same instructions using the same clocking signals, as claimed.

The rejection asserts that operating on input data with the same value, memory location and relative timing as the target-ECS, the shadow system can produce a mirror-image of the target-ECS (see Coker, col. 3, lines 6-12) is equivalent to the computer system configured to compare a content of the first memory against a content of the second memory to verify the lock step, as claimed. The Applicant respectfully disagrees with this assertion. Even assuming arguendo that a mirror-image is produced, producing mirror-image does not necessarily teach or suggest that a computer system is configured to compare the content, as claimed. Therefore, the disclosure by Coker that a shadow system is capable of producing a mirror-image of the target-ECS is not in any way equivalent to a computer system configured to compare their content and to verify the lock step operation, as claimed. As such, it is respectfully submitted that Coker does not disclose nor does it suggest a computer system is configured to compare a content of the first memory against the second memory to verify the lock step, as claimed.

Moreover, the rejection asserts that “transmitting input events from the I/O registers 12b of the target-ECS 12 to the I/O state memory 28b of the shadow system 28” is equivalent to verifying the lock step execution between the I/O registers 12b and the I/O state memory 28b. The Applicant respectfully disagrees. Transmitting input events from I/O registers 12b and the I/O state memory 28b does not necessitate a computer system configured to compare a content of the first memory against the second memory to verify the lock step, as claimed. Furthermore, the rejection asserts that the Applicant’s argument with this regard amounts to the “conclusion that Coker’s host system 36 is incapable of comparing memory contents, which is not reasonable and not supported by the reference.” The Applicant respectfully disagrees and the Examiner’s attention is drawn to the fact that there is a difference between “not disclosing” the computer system configured to compare contents and the computer system being “incapable of” configuration to compare contents. The Applicant respectfully submits that the burden of proof is on the rejection to show the disclosure of the recited limitation in the cited reference. The Examiner has failed to show a prima facie evidence to establish a rejection, under 35 U.S.C. 102(b), because Coker fails to teach that a computer system is configured to compare a content of the first memory against the second memory to verify the lock step, as claimed and discussed above. Accordingly, the Examiner is invited to introduce evidence showing the recited limitation of the claimed invention in Coker or kindly withdraw the rejection.

The rejection further asserts that the ICE as claimed is shown by ICE 32 and shadow system 28 having a RAM 28a and an I/O state memory 28b coupled to the ICE 32 via electrical connection 30 (see Coker, Figure 1). The Applicant has not found a disclosure in Coker either teaching or suggesting that the ICE (see Coker, Figure 1, shadow system 28 and ICE 32) has a CPU, as claimed. The Applicant respectfully invites the Examiner to introduce evidence to show the recited limitation of a CPU, as claimed or kindly withdraw the rejection.

Therefore, Coker does not disclose the recited limitations of independent Claim 1. Accordingly, independent Claim 1 is not anticipated by Coker, under 35 U.S.C. 102(b). Independent Claims 9 and 15 recite similar limitations to that of independent Claim 1 and are patentable over Coker, under 35 U.S.C. 102(b), for the same reasons that independent Claim 1 is patentable. Dependent Claims 2, 5-8, 10-11, 13-14, 16 and 18-20 are patentable by virtue of their dependency. As such, allowance of Claims 1-2, 5-11, 13-16 and 18-20 is earnestly solicited.

Claim rejections  
35 USC § 103

Claims 3, 12 and 17 were rejected as being allegedly unpatentable under 35 U.S.C. 103(a) over Coker in view of Barnett (U.S. Patent No. 6,173,419) (hereinafter Barnett). The Applicant respectfully traverses the rejections.

Dependent Claims 3, 12 and 17 include the limitations of their respective independent claims. The Applicant does not understand Barnett to remedy failures of Coker discussed above. Thus, the combination of Coker and Barnett does not render Claims 3, 12 and 17 obvious, under 35 U.S.C. 103(a). As such, allowance of Claims 3, 12 and 17 is earnestly solicited.

Claim 4 was rejected as being allegedly unpatentable, under 35 U.S.C. 103(a), over Coker in view of "State of the Art" by Stan Augarten, published 1983 (Augarten). The Applicant respectfully traverses the rejection.

Claim 4 depends from independent Claim 1 and includes the limitations of independent Claim 1. The Applicant does not understand Augarten to remedy failures of Coker discussed above. Thus, the combination of Coker and Augarten does not render Claim 4 obvious, under 35 U.S.C. 103(a). As such, allowance of Claim 4 is earnestly solicited.

For the above reasons, the Applicant requests reconsideration and withdrawal of these rejections under 35 U.S.C. 102(b) and 35 U.S.C. §103.

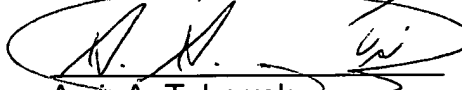
### CONCLUSION

In light of the above listed remarks, reconsideration of the rejected Claims 1-20 is requested. Based on the arguments presented above, it is respectfully submitted that Claims 1-20 overcome the rejections of record and, therefore, allowance of Claims 1-20 is earnestly solicited.

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